

Liu et al.
USPN 09/821,291
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In the Claims:

1. **(Previously Presented)** A method of extruding structural members comprising:
 - (a) providing an alloy consisting essentially of:
 - about 3.6 to about 4.2 wt % copper,
 - about 1.0 to about 1.6 wt % magnesium,
 - about 0.3 to about 0.8 wt. % manganese,
 - about 0.05 to about 0.25 wt. % zirconium,
 - not more than about 0.08 wt.% iron,
 - not more than about 0.06 wt.% silicon
 - the balance substantially aluminum, incidental elements, and impurities;
 - (b) homogenizing said alloy at a temperature between about 855° and 880°F prior to extruding said alloy at an extrusion billet temperature within about 500° to about 750°F to form an extrusion;
 - (c) solution heat treating said extrusion; and
 - quenching said extrusion before making a structural member therefrom.
2. **(Previously Presented)** The method of claim 1 wherein the extrusion billet temperature in step (b) is about 550° to about 650°F.
3. **(Previously Presented)** The method of claim 1 wherein the extrusion billet temperature in step (b) is about 600° to about 650°F.
4. **(Currently Amended)** The method of claim 1 which further includes:
 - (e) (d) stretching said extrusion by at least about 1 %.
5. **(Withdrawn)** The method of claim 27 which further includes:
 - (e) stretching said extrusion between about 1 to about 10%.
6. **(Withdrawn)** The method of claim 27 which further includes:
 - (e) stretching said extrusion between about 1 to about 8%.

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7. **(Withdrawn)** The method of claim 27 which further includes:
(e) stretching said extrusion between about 1 to about 3%.
8. **(Withdrawn)** The method of claim 27 which further includes:
(c) stretching said extrusion by at least about 1 %, said extrusion
having less than about 50% by volume recrystallized after stretching.
9. **(Withdrawn)** The method of claim 27 which further includes in
step (e):
(e) stretching said extrusion by at least about 1 %, said extrusion
being substantially unrecrystallized.
10. **(Withdrawn)** The method of claim 27 which further includes in
step (e):
(e) stretching said extrusion by at least about 1 %, said extrusion
having a longitudinal yield strength of at least about 50 ksi and a
longitudinal tensile ultimate strength of at least about 70 ksi.

Claims 11-26 Cancelled

27. **(Withdrawn)** A method of extruding structural members consisting
essentially of:
(a) providing an alloy consisting essentially of:
about 3.6 to about 4.2 wt % copper,
about 1.0 to about 1.6 wt. % magnesium,
about 0.3 to about 0.8 wt % manganese,
about 0.05 to about 0.25 wt.% zirconium,
not more than about 0.08 wt.% iron,
not more than about 0.06 wt.% silicon,

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the balance substantially aluminum, incidental elements, and impurities;

- (b) extruding said alloy at an extrusion billet temperature within about 500° to about 750°F to form an extrusion;
- (c) solution heat treating said extrusion;
- (d) quenching said extrusion before making a structural member therefrom; and
- (e) stretching said extrusion by at least about 1 %.

28. **(Previously Presented)** A method of extruding structural members having a combination of high strength and toughness, said method comprising:

- (a) providing an alloy consisting essentially of:
 - about 3.6 to about 4.2 wt. % copper,
 - about 1.0 to about 1.6 wt. % magnesium,
 - about 0.3 to about 0.8 wt. % manganese,
 - about 0.05 to about 0.25 wt.% zirconium,
 - not more than about 0.08 wt.% iron,
 - not more than about 0.06 wt.% silicon,
 - the balance substantially aluminum, incidental elements, and impurities;
- (b) homogenizing said alloy at a temperature between about 855° and 880°F prior to extruding said alloy at an extrusion billet temperature within about 500° to about 750°F to form an extrusion;
- (c) solution heat treating said extrusion; and
- (d) quenching said extrusion before making a structural member therefrom.